The Role of Underemployment in Employee's Overall Job Satisfaction: The Alabama Case.

Authors

Samuel N. Addy
Center for Business and Economic Research
Culverhouse College of Commerce and Business Administration
The University of Alabama
P.O. Box 870221
Tuscaloosa, AL 35487
Tel: 205-348-8960
E-mail: saddy@cba.ua.edu

Kilungu Nzaku
Center for Business and Economic Research
Culverhouse College of Commerce and Business Administration
The University of Alabama
P.O. Box 870221
Tuscaloosa, AL 35487
Tel: 205-348-1540
E-mail: knzaku@cba.ua.edu

Ahmad Ijaz
Center for Business and Economic Research
Culverhouse College of Commerce and Business Administration
The University of Alabama
P.O. Box 870221
Tuscaloosa, AL 35487
Tel.: 205-348-2955
E-mail: aijaz@cba.ua.edu

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Abstract

Job satisfaction is an important measure of utility that employees derive from their jobs and is related to various features of the job such as pay, security, intrinsic values of work, working conditions, career growth opportunities, working hours, and the like. This paper analyzes the relationship between underemployment and overall job satisfaction among other personal and job characteristics of the workforce in Alabama using survey data from Alabama workforce development regions. A logistic model is used to analyze the determinants of job satisfaction in Alabama including underemployment. Estimation results show a negative relationship between underemployment and job satisfaction. Personal and work-related attributes such as education, age, work hours, and gender are also shown to influence employee job satisfaction.

Subject Areas: Regional Development; Workforce Development; Labor Economics.

Introduction:

Job satisfaction is an important measure of employee utility derived from the job and is related to various features of one's job, such as pay, security, intrinsic value of work, working conditions, working hours, career growth opportunities, and the like. Although job satisfaction studies are not common in economics because of the attribute's subjective nature, other social scientists have associated job satisfaction with low employee absenteeism, tardiness, and high performance. Low job satisfaction has been identified as one of the major causes of voluntary employee turnover. Many employers track job satisfaction as part of their human resource departments but there is no comprehensive analysis of job satisfaction at the regional, state or national level. Tracking job satisfaction as well as a comprehensive measure of underemployment could be helpful in measuring organizational effectiveness and in identifying strategies for workforce and economic development which will lead to a more productive and satisfied workforce.

Job satisfaction could be defined in terms of the degree of fit between what an organization requires of its employees and provides for them as well as what the employees seek from the firm (Kokko and Guerrier, 1994). Employees look for fitness against a number of dimensions—intrinsic work interest, pay and rewards, social relations, level and type of control, etc.—and thus satisfaction is a multidimensional concept that can result in one employee's satisfaction but a colleague's dissatisfaction with the same work.

Job satisfaction and underemployment studies have been of keen interest to sociologists and psychologists for decades because of their influence on firm outcomes

and general economic development. However, job satisfaction studies are rare in economics because of the attribute's subjective nature (Freeman, 1978). Indeed, a significantly large portion of the job satisfaction literature has been generated by industrial psychologists, sociologists and management researchers who have largely acknowledged the influence of the subjective nature of job satisfaction and its effect on employee turnover rates. High job satisfaction is associated with low employee absenteeism and tardiness, and high job performance in general (Judge et al., 2001). Many employers track job satisfaction as part of the duties of their human resource departments, but the comprehensive underemployment we focus on in this paper is rarely measured by firms or governments. Despite acknowledging the existence of underemployment among full-time workers, the U.S. Bureau of Labor Statistics (BLS) has no official data on such underemployment. Part-time workers are included in the BLS' U-6 measure of labor underutilization which is oftentimes erroneously referred to as underemployment.

This study examines the role of personal and job characteristics of the workforce in employees overall satisfaction with their jobs in Alabama. In particular the paper analyzes the relationship between underemployment and job satisfaction using survey data collected from Alabama's workforce. The specific objectives of the paper are to determine the relationship between overall job satisfaction and underemployment in Alabama and to offer policy recommendations towards an improved workforce productivity and development.

Methods:

The data for this paper are drawn from a large underemployment telephone survey conducted by the University of Alabama's Center for Business and Economic Research (CBER) and the Capstone Poll (CP) as part of the "State of the Workforce" reports for Alabama. The respondents of the survey were working age individuals – the employed and unemployed – and were asked both demographic and work related questions. In total, 10,255 complete interviews were conducted in 2010 of which 4,744 were from employed respondents. Employed respondents were asked about their level of job satisfaction (overall and aspects) and underemployment (status and reasons) in addition to demographic and work-related questions.

To get the levels of job satisfaction of employed workers, the respondents were asked to rate their overall satisfaction with their jobs. The responses were based on Likert scale, ranging from 1 ("completely satisfied") to 5 ("completely dissatisfied"). The frequency of the responses are summarized in Table 1 and 2.

Workers are underemployed if their skills, knowledge, and time are not fully utilized or compensated for in their jobs. Although the measurement of underemployment like job satisfaction is a major challenge to both researchers, especially among economists, and business owners and managers, the interactions between the two concepts impact turnover and labor productivity. The challenge is with respect to objectively determining and managing the two attributes so as to develop and employ appropriate strategies for motivating employees and utilizing their skills. The measurement challenge is facilitated significantly by acknowledging the inherent subjectivity of the attributes and accepting self-reported measures. Most employers depend on employee evaluations, grievance and other reports, and in-house surveys to

determine job satisfaction. Underemployment is not measured, but adding a few questions to in-house job satisfaction surveys can help to estimate the level of underemployment.

A logistic model is used to estimate the role of underemployment, work characteristics, and personal attributes in employee overall job satisfaction. The underemployment workforce under consideration refers to workers whose skills, work experience, and training are not fully utilized in their jobs. This includes both part-time and full-time employee workers. The personal and job attributes that are included in the analysis include employee educational attainment, earnings, gender, marital status, age, race, number of hours worked, and home ownership.

Following Campbell (1981), Chamerlain (1985), Frey and Stutzer (2002), and Duc (2008), a micro-econometric function to measure satisfaction can be expressed as, $w_i = \alpha + \beta X_{i+}\varepsilon_i$ where w_i is the level of satisfaction and, $X_i$is the vector of explanatory variables of demographic, socioeconomic, and work related characteristics, $\propto$ is intercent and β is a vector of parameters respective to explanatory variable X. Satisfied and completely satisfied levels of job satisfaction are combined to represent overall satisfaction (Y=1), and the rest dissatisfaction (Y=0). A logistic model is used to calculate the expected probability p that an employee is satisfied (Y=1) for a given value of personal and work characteristic X. the probability that Y is 0 is 1-p. A logistic model is estimated in SAS to explore personal and work-related determinants of overall job satisfaction.

The probability of job satisfaction can be defined as

$$ln\left(\frac{p}{1-p}\right) = \beta_0 + \beta_1 X$$

This can be given by

$$ln\left(\frac{p}{1-p}\right) = \frac{e^{X_i\beta}}{1+e^{X_i\beta}}$$

Results/Discussion:

Results of the study are shown in Table 3. The parameter for age is positive implying that the likelihood of being satisfied with a job is shown to increase with the age of the employee. This finding conforms to the existing literature which shows that younger employees are more likely to be unsettled in their careers and more dissatisfied with their jobs than their older counterparts. As these workers age, they are likely to realign their expectations with their career demands and hence be happier with their jobs.

The level of income is positively associated with job satisfaction underpinning the importance of adequately compensating employees. The individuals primarily engage in employment to earn income. A well remunerated employee is very likely to enjoy his work and be happy with his/her job since the major goals are met. A higher educational attainment increases the likelihood of being satisfied with ones job. Workers with high educational qualifications engage in jobs that are highly skilled and better paying than those lowly educated workers. Individuals who are high educational background are also likely to have invested in developing skills in their desired/preferred career and thus more happy in their jobs.

The results of the study show that being underemployed as well as personal and job characteristics are key determinants of overall job satisfaction in Alabama. Workers who are underemployed are less likely to be happy with their jobs as they may feel

underutilized. Male workers and those of minority ethnicity are also found to be less likely to be satisfied with their jobs than female workers and Caucasian workers. Employees with higher educational attainment and those earning higher wages are found to be more likely to be satisfied with their jobs than those with lower earnings and educational attainment. Older and married workers are also more likely to be satisfied with their jobs than the young and unmarried. However, the number of hours worked and the length of time in a certain job are not important factors to employee's overall job satisfaction.

Results from the study are important to workforce development policy and human resource management. Regional development policies that improve educational attainment and income levels could improve employee satisfaction, retention, and productivity. Employers could also increase labor productivity by improving overall job satisfaction among employees through reducing underemployment and improving working conditions.

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TABLE 1. Alabama 2010 Underemployment Survey Results (Percent)

		Employed	Underemployed
1. *Percent of adults that are working full-time*		79.2	65.7
2. *Percent of part-timers who would like to work full-time*		36.1	50.3
3. *Percent of workers with more than one job*		10.6	9.8
4. *Average commute time (one-way)*	Less than 20 minutes	55.1	53.9
	20 to 40 minutes	29.0	29.3
	40 minutes to an hour	10.3	11.4
	More than an hour	2.5	1.5
5. *Commute distance*	Less than 10 miles	45.7	46.4
	10 to 25 miles	32.8	32.0
	25 to 45 miles	14.2	14.7
	More than 45 miles	5.6	5.0
6. *Occupation*	Management	9.8	8.0
	Business/Financial Operations	3.9	3.1
	Computer/Mathematical	1.6	1.5
	Architecture/Engineering	1.9	0.6
	Life/Physical/Social Science	0.6	0.6
	Community/Social Services	1.2	1.3
	Legal	1.3	1.0
	Education/Training/Library	10.0	9.1
	Arts/Design/Entertainment/Sports/Media	1.0	1.2
	Healthcare Practitioners/Tech.	5.0	4.8
	Healthcare Support	3.7	3.6
	Protective Services	1.3	1.2
	Food Preparation/Serving Related	2.4	3.4
	Building/Grounds Cleaning/Maintenance	1.5	2.3
	Personal Care/Services	2.8	3.4
	Sales/Related	6.0	7.3
	Office/Administrative Support	6.4	6.7
	Farming/Fishing/Forestry	1.8	1.1
	Construction/Extraction	2.2	2.3
	Installation/Maintenance/Repair	3.1	3.4
	Production	3.2	3.5
	Transport/Material Moving	3.5	4.0
	Other and D/K or N/A	26.0	26.7
7. *Industry*	Agriculture/Forestry/Fishing/Hunting	3.4	3.1
	Mining	0.5	0.4
	Utilities	2.0	1.5
	Construction	4.2	3.5
	Manufacturing	8.0	7.7
	Wholesale Trade	1.4	1.2
	Retail Trade	6.2	7.9
	Transportation and Warehousing	3.5	3.2
	Information	0.7	0.6
	Finance and Insurance	4.1	2.9
	Real Estate and Rental and Leasing	1.4	1.0
	Professional, Scientific, and Technical Services	1.8	1.6
	Management of Companies and Enterprises	0.7	1.0
	Administrative/Support/ Waste Management/Remediation Services	0.7	1.0
	Educational Services	12.9	12.4
	Healthcare and Social Services	14.5	14.9
	Arts/Entertainment/Recreation	1.4	2.3
	Accommodation and Food Services	3.0	4.7
	Public Administration	3.1	3.4
	Other Services	6.7	7.0
	Other and D/K or N/A	20.0	18.7

TABLE 1. Alabama 2010 Underemployment Survey Results (Percent, continued)

Job Satisfaction		Employed	Underemployed
8. ***Number of years at current/primary job***	Less than a year	8.1	11.0
	1 to 3 years	7.9	11.0
	3 to 5 years	7.3	9.0
	5 to 10 years	14.0	15.4
	10 to 20 years	25.7	25.1
	More than 20 years	35.4	27.1
9. ***Monthly wages***	Less than $500	5.0	7.5
	$500 up to $1,000	10.9	18.4
	$1,000 up to $2,000	21.7	28.8
	$2,000 up to $3,000	18.9	16.9
	$3,000 up to $4,000	12.3	8.9
	$4,000 up to $6,000	11.8	7.9
	More than $6,000	11.3	6.1
23. ***Percent of workers whose current job fits well with their education and training, skills, and experience***		86.3	73.7
24. ***Percent of workers who believe they are qualified for a better job***		62.5	84.4
Reasons:	Education and training	92.1	94.3
	Skills	95.5	95.6
	Experience	93.6	94.7
25. ***Additional income for which workers would leave current job***			
	0 to 5% more	6.5	8.4
	5 to 15% more	19.5	22.8
	15 to 30% more	25.9	26.7
	30 to 50% more	15.1	17.4
	More than 50% more	10.8	12.0
	*** Would not leave current job	19.8	10.2
26. ***Additional commute for such a new job***	0 to 10 miles	33.6	30.4
	10 to 20 miles	33.1	33.7
	more than 20 miles	31.0	34.4
27. ***Additional one-way commute time for this job***	0 to 10 minutes	25.0	21.2
	10 to 20 minutes	32.6	30.7
	more than 20 minutes	40.5	46.3
28. ***Percent of workers who sought better job in past three months***		20.4	34.8
29. ***Percent of workers who say they are currently underemployed***		**24.4**	100.0

30. ***Reasons respondents give for being***	**Nonworkers**	
Lack of job opportunities in their area	30.7	66.8
Low wages at the available jobs	19.1	55.7
Live too far from jobs	17.4	36.3
In school or undergoing training	3.8	8.1
Spouse or partner has a really good job	10.8	19.1
Retired	62.3	12.2
Social security limitations	22.8	6.8
Disability or other health concerns	46.5	9.6
Child care responsibilities	10.4	24.9
Care of someone other than a child	9.0	14.4
Other family or personal obligations	11.0	28.8
Home ownership	16.1	23.6
Other reasons	15.3	16.7

TABLE 1. Alabama 2010 Underemployment Survey Results (Percent, continued)

Respondent Characteristics		Nonworkers	Employed	Underemployed
31. ***Married Respondents***		49.6	66.1	59.9
32. ***Sex***	Female	68.4	57.3	61.8
	Male	31.6	42.7	38.2
33. ***Median age***		63.5	49	48
34. ***Ethnicity***	Hispanic	1.1	1.3	1.5
21b. ***Race***	White	67.7	72.8	64.5
African-American or other ethnicity group		28.7	24.5	31.7
35. ***Last grade of school completed***				
Some high school or less but no diploma		17.8	5.0	6.0
High School or GED		37.8	27.7	26.2
Some college, no degree		16.1	16.2	18.1
Jr. College/trade school/associate degree		9.5	15.0	14.0
4-year college graduate/BA		10.2	20.2	21.2
Postgraduate/Masters		7.8	15.8	14.1

Note: Responses to the questions on occupation and industry should only be used for making comparisons between the employed and the underemployed and not for indicating worker distribution by occupation or industry. Rounding errors may be present.

Table 2. Job Satisfaction and Willingness to Train (Percent)

	Job Satisfaction				
	Completely Dissatisfied	Dissatisfied	Neutral	Satisfied	Completely Satisfied
Employed					
Overall	3.9	4.3	15.9	27.8	48.0
Earnings	10.4	10.1	22.2	26.2	30.6
Retention	4.6	4.8	10.7	20.1	57.8
Work	1.7	2.6	8.8	24.1	62.5
Hours	4.7	4.1	11.1	20.1	59.7
Shift	3.0	3.0	7.8	16.4	69.3
Conditions	3.3	4.9	14.5	25.9	51.0
Commuting Distance	4.9	5.0	10.9	14.8	64.8
Underemployed					
Overall	8.6	8.8	27.0	27.0	28.2
Earnings	23.0	17.5	26.3	18.2	14.6
Retention	10.0	9.3	14.9	23.1	41.3
Work	4.2	5.4	14.8	26.6	48.8
Hours	10.3	6.1	14.3	21.4	47.4
Shift	5.2	5.0	10.9	17.4	61.1
Conditions	7.2	8.9	19.9	25.5	38.4
Commuting Distance	5.2	4.5	13.0	14.9	59.9

Table 3. Logistic Regression Estimates (Dependent Variable = Job Satisfaction)

Parameter	Estimate	Wald Chi-Square	Pr > ChSq
Intercept	0.4213	1.3820	0.2860
Number of Years at Current Job	-0.0688	0.4854	0.4860
Age	0.0216	47.0300	<0.001
Male	-0.1999	5.8890	0.0152
Married	0.3071	13.5432	0.0020
Minority	-0.2643	9.7509	0.0018
Income Level	0.1758	36.9805	<.0001
Home Ownership	0.0382	0.1552	0.6936
Underemployment	-1.2656	238.3510	<.0001
Education	0.0787	8.6206	0.0033
Work Hours	-0.0176	23.8591	<.0001
AIC	4307.2200		
-2Log L	4285.2200		
			Pr > ChiSq
LR		504.0923	<.0001
Score		511.3186	<.0001
Wald		447.4798	<.0001